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E-LUBRICATED SHEET:

ILL OTHERS FOLLOW GM's LEAD?

STRIP PRODUCERS FIGHT CROWDING OUT

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What Steel Management Is Doing to Gain Market Share.

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STRIP STEELMAKERS ARE BEATING BACK THE CHALLENGES

In response to all the pressures, strip steel producers are moving to improve their capabilities and redefine their territories.

In a planned economy, there probably wouldn't be a cold rolled strip industry.

The planners would probably conclude that all cold rolling should be done on the high speed sheet mills of integrated producers. These are more efficient than the smaller facilities of strip companies.

There would be some logic in the planners' conclusion, but it would be wrong. The workings of the free U.S. market have shown there is a useful role for small, highly specialized producers of cold rolled strip.

The niche of the strip industry is fluid and currently under siege, but the industry is moving vigorously to beat back challenges.

The staying power of strip companies is vividly illustrated by a visit to Cold Metal Products Co., Inc., in Youngstown, Ohio. Producing low carbon, high carbon, and some stainless strip, Cold Metal operates profitably on sales of $70-85 million a year.

Next door to Cold Metal is the largely abandoned Campbell Works of what was once Youngstown Sheet & Tube Co. The blackened shell of this dead integrated plant stretches for miles and contrasts sharply with the very live operation of Cold Metal.

The strip industry has its own casualties, but it has been able to keep its products and to some extent, its fortunes, separate from the integrated industry.

"A true strip product is tailormade to the customer's requirements," said James R. Harpster, president of Cold Metal Products and president of the Association of Cold Rolled Strip Steel Producers.

"A sheet product is made one way," said Mr. Harpster. "If the customer can tailor his products to use it, he should because it's less expensive."

The tailoring of strip can involve a number of operations. "We buy hot-rolled and cold-rolled, anneal it and slit it," said Thomas C. Elliott, president of Elliott Brothers Steel Co., New Castle, Pa.

"In the case of high-carbon, we multiple anneal it," he said. "We provide different edges—a slit edge, a rolled-round edge."

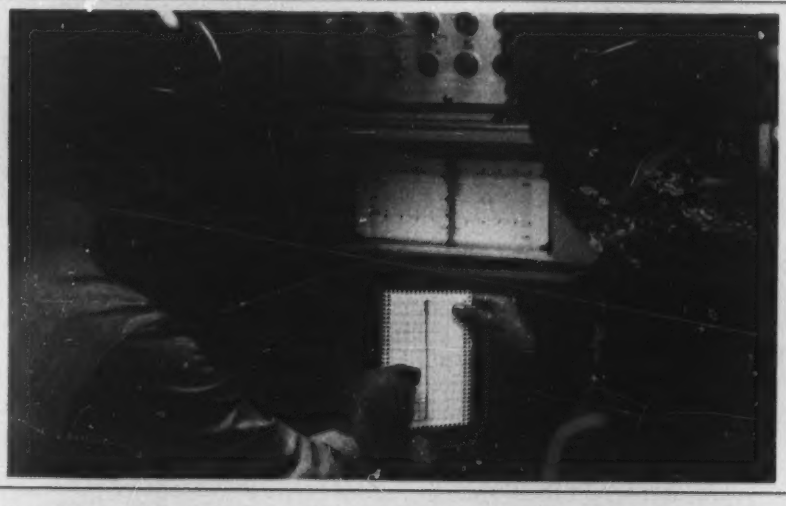
In the domestic industry, the maximum width for strip is 24 in. True strip is rolled in narrow widths and it is given a thorough cold reduction—40 to 90 pct.

"A strip product has much closer gage tolerances than sheet coil," explained Gordon A. Wilbur, vice president of operations for Cold Metal Products.

Steel passes through a slitting line at the Youngstown, Ohio, plant of Cold Metal Products Co., Inc., and is cut to the narrow width of strip.

High carbon steel is very important in the strip picture. "We roll low carbon, but about 75 to 80 pct of it is high carbon—the heat treatable grades, 1095, 1075, 1050," said Mr. Elliott.

Distinct from this kind of strip is material rolled by the integrated mills as wide sheet and then slit to narrow widths. Also differ-



Precision tolerances are a hallmark of the strip industry. A system at Cold Metal Products provides control as close as ±1 pct.

Cold Rolled Carbon Strip Steel

Thousands of Tons

Year	Domestic Shipments*	Imports**	% Import Share
1970	910.8	NA	–
1971	880.2	NA	–
1972	942.5	NA	–
1973	1164.9	56.4	4.6
1974	1206.5	44.3	3.5
1975	671.0	26.2	3.8
1976	841.4	42.5	4.8
1977	869.0	41.5	4.6
1978	923.4	49.3	5.1
1979	890.1	49.6	5.3
1980	665.6	47.0	6.6
1981	794.5	50.8	6.0
1982	548.3	49.2	8.2
1983	670.4	66.1	9.0
1984	714.7	145.3	16.9
1985	607.6	215.5	26.3
1986	677.0	125.0	15.6

*Source: American Iron & Steel Institute **Source: U.S. Department of Commerce
1986 Figures based on 11 months actual and December estimates.

ent is the slit sheet that is given a light, gage correction pass by a service center or processor.

The distinctions are reflected in a price for true high carbon strip about 25 pct higher than split sheet given one pass.

The price differential provides an incentive to foreign producers to shift tonnage into the strip area. Voluntary restraint agreements do cover strip, and the official statistics showed an import drop from 216,000 tons in 1985 to 125,000 tons in 1986.

However, the government classes everything over 12 in. wide as sheet, and there is no breakdown on the basis of quality. "A great deal of the product that comes in really is what we call a spilt sheet," said Mr. Harpster. "The big drop was in split sheet. Canada, of course, is not covered by the VRA, and the Canadian imports went wild in 1986."

Some of the material arrives in circuitous manner. "It comes from Canada and it doesn't come from Stelco or Dofasco," said Mr. Elliott. "It comes from secondary processors. It may go through a couple of people in Canada and then it's shelled into here.

Also increasing, he indicated, is material that moves through domestic processors. "In the strip business," he said, "you used to know who you were up against. But now, it's every guy with a slitter in New York or Chicago or Detroit. They pick up steel and gage correct it."

Facilitating this activity has been the movement of foreign suppliers into higher value products. "High carbon sheet sells for 8¢ to 10¢ a lb higher than low carbon sheet," said Mr. Harpster.

"The Japanese would bring in 1050 sheet 24 to 30 in. wide and it would come in under the sheet statistics," he said. "They would sell it to service centers below the domestic 1050, and then the service centers would split it into strip." Starting in January, the government began classifying sheet by carbon content.

Steel Quality

A final consideration of the strip companies is the quality of steel from integrated producers. In this regard, the strip industry has something of a split personality.

"We're concerned with the quality of domestic raw material," said Richmond Glover, president of Wallace Barnes Steel in Bristol, Conn. The raw material is hot rolled sheet, and strip people would like the integrated mill to do a better job on shape and profile off the hot mills.

On the other hand, the improved quality of cold rolled sheet from the integrated mills tends to blur product distinctions. "The sheet tolerance is roughly ±10 pct," said Gordon Wilbur of Cold Metal Products. "The standard strip tolerance is ±5 pct.

"When the domestic or foreign cold rolled sheet mills use half standard, they're in the ±5 pct range," he explained. "So they're getting right on the edge of the old strip mill capabilities."

In response to all the pressures, strip producers are moving to improve their capabilities and redefine their territories. A study now being conducted for the strip association by the Illinois Institute of Technology Research aims at determining how much better current capabilities are. It's expected that new, tighter strip standards will be established when all the information has been collected.

Individual mills have already set up their own tolerances. "We have a new CMP standard tolerance, which is approximately half of what the old tolerance was," said Mr. Harpster of Cold Metal Products (CMP). "And then we've got what we call the CMP precision tolerances, which are sort of half again as tight."

The precision tolerances, which carry price extras, are as close as ±1 pct. "So we're talking almost one-tenth the standard sheet tol-

erance," said Mr. Harpster.

To achieve this kind of uniformity, Cold Metal Products has installed a hydraulic control system employing the thickness sensor of Vollmer America, Inc.

"The heart of this system is the gap sensor," said Mr. Wilbur. "This is a mechanical sensor. It goes right in the roll gap and gives accurate results."

Cold Metal Products has equipped cold mills in both Youngstown and Indianapolis with the new control. The mills employ the Steckel principle, which was developed at Cold Metal. It minimizes the damage from a break in the strip. The company has three continuous annealing lines and batch annealing.

The Vollmer system is being used as part of the extensive modernization program at Rome Strip Steel Co. in Rome, N.Y.

"We have the newest tandem mill in the country," said A.B. Hinman, president of Rome Strip.

Much of the strip rolling in the U.S. is done on reversing mills, but Rome has a three-stand continuous mill. As Mr. Hinman noted, this was the last tandem mill built in the U.S. by anyone, including the integrated producers.

Rome Strip has achieved a major first in the U.S. "We've got a new six-high mill," said Mr. Hinman. This is a Sendzimir version of the six-high. A third mill is being converted to the Sendzimir Z-high design.

The quality gains from new equipment have enabled Rome Strip to maintain a good workload despite the inroads of split sheet in the market.

"We're sitting here kind of smug," said Mr. Hinman.

Others are moving to strengthen their positions. "We've been updating our equipment because everyone's more and more particular," said Mr. Elliott. "We put in a new slitter last year. We updated our four-high mill with new Weston X-Ray gages." He notes that his company's small size permits fast reactions and the ability to handle limited quantities.

The Connecticut location of Wallace Barnes makes the company particularly sensitive to world pressures. "Because of the foreign competition, we are looking at both quality and productivity," said Mr. Glover.

He has a unique perspective on the world picture because Wallace Barnes was acquired last year by Theis of West Germany.

There have been a number of ownership changes. Worthington Industries, Inc., now owns Newman Crosby of Pawtucket, R.I., and National Rolling Mills, Inc., of Malvern, Pa. The Cuyahoga wire and strip operation of USX Corp. was spun off to American Steel and Wire Co. Cold Metal Products was acquired by Jones & Laughlin Steel Corp. many years ago and then sold back to a private group in 1980.

Strip volume has held up fairly well. Shipments were up a little in 1986. The auto market is big for strip and there were signs of weakness there in early 1987.

Judging by past peaks, the industry is running at a little more than 50 pct of capacity and there is very tough pricing.

By George J. McManus

A true strip product is tailor-made to the customer's needs, says one industry executive.

High blood pressure. Treat it and live.

The only way to control high blood pressure is to treat it every day. Do whatever your doctor prescribes, but do it daily, no matter how you feel.

If you're on treatment, stay with it.

If you haven't started, do something about it, today.

And if you've stopped, don't be discouraged. You can get back on treatment and bring that pressure down.

High blood pressure. Treat it every day and live.

National High Blood Pressure Education Program.
National Heart, Lung, and Blood Institute.
U.S. Department of Health and Human Services

4TH QUARTER EARNINGS
STEEL IN THE BLACK

Most of the large steel companies made money in the final three months of 1986, but the profits resulted from cost reductions rather than from any significant price relief.

In the fourth quarter of 1986, the costs of most large steel companies were lower than their prices.

This is another way of saying the companies made money. It is an appropriate way because the profits resulted from cost reduction rather than from any significant price relief. If steel prices stay put in 1987, the industry's continued cost cutting could finally bring a payoff.

That's a big if, but the potential for a payoff was illustrated by the fourth quarter report of Bethlehem Steel Corp. In its basic steel sector, Bethlehem went from an operating loss of $15 million in the third quarter of 1986 to an operating profit of $73 million in the fourth quarter.

The profit gain came despite a slight drop in prices. Steel prices did firm in the fourth quarter, but with a portion of its tonnage based on earlier quotations, Bethlehem's dollar sales and price collections were down a little in the last quarter.

That left only one main source of profit improvement. "The fourth quarter 1986 results reflect cost benefits from our two new continuous casters as well as productivity improvement at all steel plants except Steelton," said Bethleham Chairman Walter F. Williams.

Also reflected in the second half of 1986 were the sharp pay cuts negotiated by most large mills. Bethlehem reduced its employment costs $2.85 an hour as a result of the new contract with United Steelworkers of America.

For most steel companies, there was extra volume in the fourth quarter because of the strike at steel plants of USX Corp. Bethlehem's shipments rose 4 pct from the third quarter to the fourth.

The USX work stoppage also contributed to price firmness, although the full effect won't show up until the first quarter of 1987.

With USX now resuming production and with most forecasts calling for lower shipments in 1987, the recent steel profits could turn out to be a flash in the pan. In this setting, it comes as a surprise that a number of investment analysts are recommending the stock of Bethlehem.

This is particularly surprising because not too long ago Bethlehem's name often cropped up in speculation on endangered steel companies. The bankruptcy talk has now subsided.

"I think Bethlehem is in better financial shape than most people think," said Richard Henderson of the Pershing Div. of Donaldson, Lufkin, and Jenrette. Asset sales and other measures have relieved short term pressures, said Mr. Henderson.

His endorsement is still surprising because Bethlehem is a pure steel company; the whole industry must prosper if it is to do well.

Mr. Henderson does look for a general upturn. He sees the weakening of the dollar, inventory depletion, and lower interest rates boosting metalworking activity.

"I think consumption of steel has been understated," he said. "What's happening is the industrial sector of the country is being revived."

Mr. Henderson is predicting steel shipments of 76 million tons in 1987. "That may be pushing it," he said, but he feels forecasts as low as 64 million tons are far too pessimistic.

Finally, he believes there is a chance of steel price stability in 1987. He doesn't think USX will come charging into the market with price cuts.

For Bethlehem, Mr. Henderson sees further cost reduction from full use of the 2.9-million-ton caster at Sparrows Point and the 2.2 million-ton caster at Burns Harbor.

Cost Reductions

The whole industry is reducing costs, but the impact is being obscured in many cases by massive write-offs. USX took a $1.5 billion charge in the fourth quarter, partly in anticipation of a 7-million-ton reduction in active capacity.

In 1987, USX expects reduced costs to add $600 million to pretax income. The four-year labor agreement is seen reducing employment costs an average of $100 million annually.

A special charge of $600 million was responsible for the $453 mil-

STEEL EARNINGS

STEEL: A BETTER FOURTH QUARTER ENDS A LOUSY YEAR

FOURTH QUARTER PROFIT REPORT—1986 (In Millions of Dollars)

		EARNINGS			SALES		
	E/S	4th Q 1986	4th Q 1985	Pct Change	4th Q 1986	4th Q 1985	Pct Change
USX	–	($1,415.0)	$89.0	–	$2,770.0	$5,048.0	–45.0
LTV	–	(453.4)	(75.7)	–	1,103.6	1,221.4	–9.6
BETHLEHEM	3.3	34.2	(77.5)	–	1,022.4	1,285.9	–20.0
INLAND	3.7	30.2	(90.5)	–	817.6	716.4	+14.0
ARMCO	5.2	34.6	18.6	+86.0	668.2	663.5	+0.7
NATIONAL	0.5	2.8	(27.2)	–	593.0	508.3	+17.0
TOTAL	–	(1,766.6)	(163.3)	–	6,974.8	9,443.5	–26.0
CYCLOPS	1.9	8.2	8.0	+2.0	419.2	392.4	+6.8
WEIRTON	4.8	15.1	12.5	+21.0	313.8	266.6	+18.0
WHEEL–PGH	–	(213.8)	(94.1)	–	240.7	96.3	+150.0
INTERLAKE	5.7	10.4	7.9	+33.0	183.1	172.6	+6.1
CARPENTER	1.8	2.0	1.4	+46.0	110.5	129.1	-14.0
LUKENS	1.0	1.1	9.5	-89.0	104.6	100.7	+3.9
QUANEX*	–	(6.2)	1.3	–	79.4	74.1	+7.2
FLORIDA	4.3	3.2	2.5	+30.0	74.4	69.2	+7.5
LACLEDE	2.7	1.6	1.4	+15.0	58.1	57.3	+1.5
CF&I	–	(2.2)	(1.8)	–	49.6	60.5	-18.0
COPPERWELD	–	(3.4)	(8.0	–	47.5	47.7	–
BIRMINGHAM	6.2	2.6	2.0	+31.0	42.0	36.4	+15.0

* Results of First Quarter ending January 31, 1987

YEARLY PROFIT REPORT—1986 (In Millions of Dollars)

		EARNINGS			SALES		
	E/S	1986	1985	Pct Change	1986	1985	Pct Change
USX	–	($1,833.0)	$598.0	–	$14,938.0	$20,779.0	–28.0
LTV	–	(3,251.6)	(713.9)	–	4,469.0	5,375.4	–17.0
BETHLEHEM	–	(152.7)	(196.0)	–	4,332.9	5,117.7	–15.0
INLAND	0.6	19.3	(178.4)	–	3 178.2	2,999.4	+5.8
ARMCO	–	(472.0)	44.8	–	2,640.5	2,936.1	–10.0
NATIONAL	–	(59.8)	(88.4)	–	2,127.8	2,082.3	+2.2
TOTAL	–	(5,749.8)	(543.9)	–	31,681.4	39,289.9	–19.4

lion net loss of LTV Corp. in the fourth quarter. LTV Steel, which reduced its labor costs $3.60 an hour in 1986, had an operating profit of $130 million in the fourth quarter.

That compared with an operating loss of $50.7 million in the fourth quarter of 1985.

Causing unhappiness in the industry are the special savings that flow from the bankruptcies of LTV and Wheeling-Pittsburgh Steel Corp.

According to Oppenheimer & Co., Inc., LTV deferred $80 million in interest expense in the fourth quarter and eliminated another $50 million in pension and vendor expenses.

"The assumption of pension liabilities by the government and the potential of additional wage and benefit reduction for companies who enter bankruptcy can provide them unfair cost advantages over other steel companies," said Howard M. Love, chairman of National Steel Corp. "Right now, the system provides an incentive for declaring bankruptcy."

National Steel went from a loss in the fourth quarter of 1985 to a small profit in the last quarter of 1986.

"In the past six months, we have improved quality and productivity, and reduced costs and energy consumption," said Mr. Love. "We anticipate productivity gains and cost cutting efforts will continue throughout 1987."

Inland Steel Industries was the only big steel company to be profitable in the whole of 1986. Inland earned $19 million in the full year and $30 million in the fourth quarter. The year was the first profitable one for Inland since 1981.

It should be said bullishness about steel prospects isn't widespread. "Fundamentally, the industry continues to have problems," said Robert Hageman of Kidder Peabody & Co. "I'm looking for a flat shipment year."

Mr. Hageman did offer one encouraging view. "I'm not looking for any price deterioration this year."

John C. Tumazos of Oppenheimer advised the sale of steel stocks in February. He predicted steel shipments would fall to 64 million tons in 1987. He said, however, that a major steel bankruptcy was unlikely in 1987.

By George J. McManus